Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A self-sealing valve, comprising:

a valve housing having a fluid conduit, a valve seat, and a support member, the valve housing being configured to pass fluid through the fluid conduit; and

a flexible diaphragm that provides a self-seal of the fluid conduit, comprising ~~an area larger than an area of the fluid conduit and~~ a periphery of the flexible diaphragm;

wherein the support member is configured to retain a portion of a flexible diaphragm; and

wherein the support member and flexible diaphragm are configured to position the flexible diaphragm against the valve seat to seal the fluid conduit in a closed position of the self-sealing valve, and to facilitate movement of at least a part of the periphery of the flexible diaphragm in a first direction away from the valve seat to an open position.

2. (Original) The self-sealing valve as claimed in claim 1, further comprising a container having an interior, an exterior, a wall separating the interior and the exterior, and a port in the wall for transferring fluid between the interior and the exterior, and wherein the valve housing is attached to the wall of the container so that fluid being transferred between the interior and the exterior of the container passes through the fluid conduit of the valve housing.

3. (Original) The self-sealing valve as claimed in claim 2, wherein the valve housing, the support member and the flexible diaphragm are configured to maintain the flexible diaphragm at a valve seat side of the valve housing.

4. (Original) The self-sealing valve as claimed in claim 2, wherein the valve housing has a first part disposed about a perimeter of the valve housing and that may be attached to the container wall, and a second part coupled to the first part that includes the valve seat and the fluid conduit.

5. (Original) The self-sealing valve as claimed in claim 2, wherein the support member and the flexible diaphragm are constructed and arranged so that an act of fluid injection of sufficient pressure into the container causes the at least the part of the periphery of the flexible diaphragm to move in the first direction into the open position to permit an influx of fluid into the container.

6. (Original) The self-sealing valve as claimed in claim 5, wherein the valve housing, the support member and the flexible diaphragm are configured to maintain the flexible diaphragm in the closed position absent external forces.

7. (Original) The self-sealing valve as claimed in claim 2, wherein the valve housing is flush mounted to the wall of the container so that the valve housing is either substantially coplanar with or beneath the wall of the container.

8. (Original) The self-sealing valve as claimed in claim 2, wherein the valve housing and the flexible diaphragm are constructed and arranged so that a sufficient fluid pressure created within the container maintains the at least the part of the periphery of the flexible diaphragm against the valve seat in an absence of an influx of fluid.

9. (Original) The self-sealing valve as claimed in claim 2, wherein the valve housing comprises a lip disposed about a perimeter of the valve housing that may be directly attached to the container wall.

10. (Original) The self-sealing valve as claimed in claim 1, wherein the flexible diaphragm includes a stiffening device that reduces a flexing of the flexible diaphragm except for the at least the part of the periphery of the flexible diaphragm.

11. (Original) The self-sealing valve assembly as claimed in claim 1, further comprising a locking device that is constructed to allow the flexible diaphragm to be placed into a locked open position.

12. (Original) The self-sealing valve as claimed in claim 11, further comprising a releasing tab that can be contacted to release the locking device.

13. (Currently Amended) The self-sealing valve as claimed in claim 1, wherein the support member and the flexible diaphragm are configured to suspend the flexible diaphragm so that substantially no supporting structure exists under the flexible diaphragm.

14. (Original) The self-sealing valve as claimed in claim 1, wherein the valve housing and the flexible diaphragm are arranged to provide non-axial movement of the at least the part of the periphery of the flexible diaphragm in a direction not substantially along an axis of the fluid inlet, in the first direction and in the second direction.

15. (Original) The self-sealing valve as claimed in claim 1, wherein the valve housing and the flexible diaphragm are arranged to provide axial movement of the at least the part of the periphery of the flexible diaphragm substantially along an axis of the fluid conduit, in the first direction and in the second direction.

16. (Original) The self-sealing valve as claimed in claim 1, wherein the valve housing and the flexible diaphragm are arranged to provide a high volume of fluid transfer over a low pressure range through the fluid conduit.

17. (Original) The self-sealing valve as claimed in claim 1, wherein the valve housing and the flexible diaphragm are arranged so that substantially any part of the flexible diaphragm may be contacted to regulate the transfer of the fluid through the self-sealing valve.

18. (Original) The self-sealing valve as claimed in claim 1, wherein the valve housing and the flexible diaphragm are arranged so that the flexible diaphragm has a plurality of interactive positions with the valve housing.

19. (Original) The self-sealing valve as claimed in claim 1, wherein the valve housing and the flexible diaphragm are arranged so that the flexible diaphragm may be removed and replaced with another flexible diaphragm.

20. (Original) The self-sealing valve as claimed in claim 1, further comprising a device for connecting and disconnecting the valve housing to a fluid control device.

21. (Original) The self-sealing valve as claimed in claim 1, wherein the support member is flexible.

22. (Original) The self-sealing valve as claimed in claim 1, wherein the valve housing and the flexible diaphragm are configured to restrain at least an additional portion of the periphery from moving in the first direction.

23. (Currently Amended) A fluid valve comprising:

a valve housing having a fluid conduit, a valve seat, and a support member, the valve housing being configured to pass fluid through the fluid conduit; and

a flexible diaphragm that provides a seal of the fluid conduit, comprising ~~an area larger than an area of the fluid conduit and~~ a periphery of the flexible diaphragm;

wherein the support member is configured to retain a portion of a flexible diaphragm; and

wherein the support member and flexible diaphragm are configured to position the flexible diaphragm against the valve seat in a closed position of the valve, and to facilitate movement of at least a part of the periphery of the flexible diaphragm in a first direction away from the valve seat to an open position.

24. (Currently Amended) A ~~self-sealing~~ fluid valve, comprising:

a valve housing having a fluid conduit, a valve seat, and a support member, the valve housing being configured to pass fluid through the fluid conduit; and

a ~~flexible~~ diaphragm having a first side and a second side, that provides a ~~self-seal~~ seal of the fluid conduit, comprising ~~an area larger than an area of the fluid conduit and~~ a periphery of the ~~flexible~~ diaphragm;

wherein the support member is configured to ~~removably retain a portion of the flexible diaphragm.~~ bias the diaphragm in a closed position proximate the valve seat absent sufficient fluid pressure against the second side of the diaphragm, to facilitate movement of the periphery of the first side of the diaphragm against the valve seat to a sealed position so as to seal the fluid conduit when there is sufficient fluid pressure against the second side of the diaphragm, and so as to facilitate movement of the diaphragm to an open position when there is sufficient fluid pressure against the first side of the diaphragm.

25. (New) The valve as claimed in claim 24, further comprising a container having an interior, an exterior, a wall separating the interior and the exterior, and a port in the wall for transferring fluid between the interior and the exterior, and wherein the valve housing is attached to the wall of the container so that fluid being transferred between the interior and the exterior of the container passes through the fluid conduit of the valve housing.

26. (New) The valve as claimed in claim 25, wherein the valve housing has a first part that may be attached to the container wall, and a second part coupled to the first part that includes the valve seat and the fluid conduit.

27. (New) The valve as claimed in claim 25, wherein the valve housing is flush mounted to the wall of the container so that the valve housing is substantially coplanar with the wall of the container.

28. (New) The valve as claimed in claim 25, wherein the valve housing comprises a lip that may be directly attached to the container wall.

29. (New) The valve assembly as claimed in claim 24, further comprising a locking device that is constructed to allow the diaphragm to be placed into a locked open position.

30. (New) The valve as claimed in claim 24, wherein the support member and the diaphragm are configured to bias the diaphragm in the closed position with no supporting structure under the diaphragm.

31. (New) The valve as claimed in claim 24, wherein the valve housing and the diaphragm are arranged to provide axial movement of the diaphragm substantially along an axis of at least a portion of the fluid conduit in the first direction and in the second direction.

32. (New) The valve as claimed in claim 24, wherein the valve housing and the diaphragm are arranged to provide a high volume of fluid transfer over a low pressure range through the fluid conduit.

33. (New) The valve as claimed in claim 24, wherein the valve housing and the diaphragm are arranged so that the diaphragm may be contacted to regulate the transfer of the fluid through the self-sealing valve.